ENERGY POLICY UPDATE

September 29, 2014

The Energy Policy Update Electronic Newsletter is published by the Arizona Governor's Office Of Energy Policy and is provided free of charge to the public. It contains verbatim excerpts from international, domestic energy, and environment-related publications that are reviewed by Community Outreach Personnel. For inquiries, call 602-771-1143 or toll free to 800-352-5499. To register to receive this newsletter electronically or to unsubscribe, email Gloria Castro.

UPCOMING WEBINARS

- High Performance Outdoor Lighting Accelerator Webinar
  Sponsor: Weatherization & Intergovernmental Programs
  Thursday, October 2, 2014
  11:00am-12:30pm (AZ Time)
  Click here to register.
- PACE Financing for Energy Efficiency Webinar
  Sponsor: Better Buildings Challenge
  Tuesday, October 7, 2014
  12:00pm-1:00pm (AZ Time)
  Click here to register.
- ENERGY STAR Webinars
- U.S. Dept. of Energy Tribal Renewable Energy Webinar Series for 2014

UPCOMING EVENTS 2014 – 2015

Arizona Governor's Economic Dev. Conference
Sep. 30-Oct. 1 Phoenix, AZ

World Energy Engineering Congress
Oct. 1-3 Washington, DC

SRP 2015 Economic Forecast
Oct. 2 Phoenix, AZ

AWEA Offshore Windpower Conference & Exhibition 2014
Oct. 7-8 Atlantic City, NJ

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The Arizona Republic now has limited access. As such, links may or may not work.

ARIZONA-RELATED

Bridgestone Subsidiary Debuts Guayule-Rubber Operation in Mesa

[Arizona Republic, Sept. 23] Bridgestone Americas Inc., a subsidiary of the Japanese tire giant, opened a 10-acre manufacturing facility in Mesa on Monday that will turn a woody shrub grown in Eloy into rubber for tires and other products. The Bridgestone Biorubber Process Research Center in Mesa and Bridgestone's 281-acre Agro farm employ about 30 people growing guayule. Soon, they will begin converting the plant to rubber. Nearly all the world's supply of natural rubber is harvested from trees grown in Asia. Guayule, native to Mexico and the Southwest, could offer an alternative supply. Bridgestone officials want to learn to produce a sustainable crop to supply rubber as the company, which sold $31 billion in tires last year, faces growing global demand. This is an exciting day for Bridgestone Corporation, Bridgestone Americas and the people of Arizona," said Yoshiyuki Morimoto, senior vice president and chief technology officer. Bridgestone has a corporate goal of producing tires with sustainable materials by 2050. "It is just as important to be good corporate citizens as to advocate for more sustainable businesses," he said. Bridgestone would not disclose its investment in the project on Mountain Road, east of Phoenix-Mesa Gateway Airport. It includes more than 17,000 square feet of office, laboratory and processing facilities.

Clean Air-Blue Skies Plates Becoming Domain of Electric Cars

[Cronkite News, Sept. 23] Phoenix – When Jim Stack bought his Ford Focus electric plug-in, his passion to keep emissions out of the air was broadcast to the world. He can even drive across the country and not pay a penny in driving costs. Stack is part of an exclusive club for two reasons: having a plug-in electric vehicle and being able to sport a blue-and-white license plate entitling him to use the HOV lane even when it's just him in the car. Starting in May, the Arizona Department of Transportation's rules for Clean Air-Blue Skies plates changed to cover those who buy fully electric vehicles rather than hybrids. That's in response to new standards from the Environmental Protection Agency. Someone driving a Toyota Prius, for example, may continue to use the plate and its privileges as long as they own the vehicle. But going forward that privilege is reserved for that model's plug-in electric version model year 2012 and newer. Stack, the president of the Electric Auto Association's Phoenix chapter, said that the change will spur electric car sales, adding that it's for the better and should have come around sooner. "It's something we've all been talking about: Why don't they just make two lanes for clean vehicles and for HOV? Instead of limiting them, limit the lanes. And pretty soon we'll have one slow-moving lane for those gas cars," he said. The EPA has approved nine models that qualify for Clean Air–Blue Skies plates, ranging

Ute Tribe Energy Conference & Expo
Oct. 14-15 Denver, CO

Nat'l. Alternative Fuel Vehicle (AFV) Day Odyssey
Oct. 17

Solar Power International.
Oct. 20-23 Las Vegas, NV

GreenBuild International Conference & Expo
Oct. 22-24 New Orleans, LA

World Bio Markets USA
Oct. 27-29 San Diego, CA

VERGE SF 2014
Oct. 27-30 San Francisco, CA

Governor's Celebration of Innovation
Nov. 13 Phoenix, AZ

Western Water Conference
Nov. 13 Huntington Beach, CA

ACEEE Intelligent Efficiency Conference
Nov. 16-18 San Francisco, CA

Renewable Energy Markets Conference
Dec. 2-4 Sacramento, CA

Solar Power Generation USA
Feb. 4-5 San Diego, CA

GreenBiz Forum 2015
Feb. 17-19 Phoenix, AZ

2015 Sustainability Solution Festival
Feb. 17-22 Phoenix, AZ

Alternative Clean Transportation (ACT) Expo
May 4-7 Dallas, TX

Solar Power Generation Mexico
May 19-20, 2015
World Trade Center, Mexico

Green Building Lecture Series
Granite Reef Senior Center
Scottsdale, AZ

ASU Sustainability Series Events

Green Building Lecture Series
Scottsdale, AZ

UPCOMING INTERNATIONAL BUSINESS EVENTS

5th Annual Celebration of Trade – Oct. 1 in Tucson
By US Commercial Service and Arizona DEC. Celebrate trade!

from the Chevrolet Volt (2011-2014) and Honda Accord Plug-in Hybrid (2014) to the Cadillac ELR (2014) and Porsche Panamera S E-Hybrid (2014). According to the U.S. Department of Energy, a conventional car emits 87 pounds of carbon dioxide for a 100-mile trip. A plug-in hybrid vehicle emits 62 pounds for that same trip, while generating the energy required for a fully electric car to make that trip emits 54 pounds.

Growing Phoenix's Urban Forest Offers Cooling Potential
[ASU News, Sept. 23] Scientists from ASU, in partnership with the City of Phoenix, released a study this summer evaluating the city's Cool Urban Spaces work. The report, Urban forestry and cool roofs: Assessment of heat mitigation strategies in Phoenix, evaluated two initiatives – the Phoenix Cool Roofs project and the Tree and Shade Master Plan – that aim to reduce extreme heat in Phoenix. City officials will use the results of the report to take their next steps in addressing urban heat impacts. The problem and some solutions – Urban heat island, or increased temperatures in urban areas relative to surrounding rural areas, is a significant problem that plagues Phoenix. The city's rapid urbanization in the past decades has led to increased warming because agricultural and desert terrain were replaced with buildings, concrete and pavement. These materials trap the sun's radiation and slowly release it at night, altering natural nighttime cooling. According to climate researchers, nighttime temperatures in central Phoenix increased by approximately 9 degrees Fahrenheit between 1948 and 2000, while the average daily temperature went up by approximately 5.5 degrees Fahrenheit during the same period. Such marked increases have made reducing the urban heat island effect a priority for scientists and city officials.

LEDs Will Light Up Super Bowl XLIX
[Energy Manager Today, Sept. 23] University of Phoenix Stadium in Glendale, Ariz. – home of the Arizona Cardinals and site of the Super Bowl on February 1, 2015 – has installed high-performance LED stadium lights from Ephesus Lighting. The University of Phoenix Stadium installed 312 Ephesus Stadium fixtures to replace more than 780 metal halide fixtures. The new lights will use 310,000 watts of energy as compared to the 1.24 million watts needed to power the previous system. On average, most venues experience a 75 percent reduction in overall sports lighting energy consumption in addition to reduced load on the air conditioning system to offset the heat generated by metal halide lights. Each Ephesus LED light provides a significant increase in illumination compared to traditional metal halide lights that were installed when the venue opened in 2006. LED lighting also provides brighter and more uniform light which eliminates shadows on the playing surface, creating a better stage for players as well as for both fans in the stadium and those watching on high-definition television.

Study: Arizona 3rd in Solar Energy Production in Schools
[Arizona Republic, Sept. 22] A new study published this month shows rapid growth of solar energy being harvested in K-12 schools across the nation, with Arizona near the front of the pack. The Solar Foundation worked with the Solar Energy Industries Association to produce *Brighter Future: A Study on Solar in U.S. Schools*, which was funded by the U.S. Department of Energy and the Sierra Club. Arizona, the sunniest state in the nation, ranks third for overall photovoltaic capacity in K-12 schools. Currently 226 Arizona schools have solar systems in place that can generate a combined 66,288 kilowatts of electricity annually. The report estimates that level of output is worth more than $9 million in lowered electricity bills. Only New Jersey and California can produce more electricity from photovoltaic installations than Arizona, over 90,000 kilowatts and over 215,000 kilowatts, respectively.

U.S. Government Formally Agrees To Pay Navajos $554 Mil
[Arizona Republic, Sept. 26] The federal government formally agreed Friday to pay $554million to resolve a lawsuit claiming it mismanaged the Navajo Nation's funds and natural resources for decades. U.S. Secretary of the Interior Sally Jewell, who headed a delegation of federal officials at a signing ceremony at tribal headquarters in Window Rock, said afterward that the funds will be transferred to the Navajo Nation within weeks. "By the end of the year, we believe the check will actually be here and in the bank and earning interest," Jewell said. "In our bank," tribal President Ben Shelly interjected. The landmark settlement, which concluded an eight-year court battle, is the most paid by the federal government to a single Indian tribe. The Navajos charged that federal officials failed to manage, invest and account for tribal funds and resources derived from the tribe's 14million acres of trust lands, which are leased for various purposes, including farming, grazing, mining and timber harvesting.

ALTERNATIVE ENERGY & EFFICIENCY

Airlines Look To Fats, Trash, Sugar To Power Engines
[Investor's Business Daily, Sept. 17] If you fly out of LAX on a United plane early next year,

RSVP

City of Phoenix Office in Mexico City – Oct. 7-8 in Mexico City Let trade and investment continue to grow. Contact Hank.Marshall@phoenix.gov.

Mariposa Port Entry Grand Opening – Oct. 15 in Nogales The new port of entry is here, making border crossing faster.

GPEC Annual Dinner – Oct. 17 in Phoenix By GPEC, when they throw this party, everyone who is anyone is there! RSVP

Global Chamber® 'Global Careers' - Oct. 21 in Glendale Student week event with 7 CEO's and hundreds of business leaders and students discussing business opportunities and growth. RSVP

MBDA Global Business Conference - Oct. 23-24 in Phoenix Network. Connect. Do Business. Succeed! RSVP

PCFR Int'l. State of the State - Oct. 27 in Phoenix One global event you can't miss every year. The lunch that keeps on giving, with a flavor of foreign policy, economic development and business growth. RSVP

Global Chamber® Launch - Nov. 5 in Phoenix Oh my, it's coming! Watch for the new website and a whole new way of getting connected with global business. More info.

Global Chamber® Tucson Launch - Nov. 6 in Tucson Also coming to Tucson, introduced by Mayor Rothschild. More info.

Governors Celebration of Innovation - Nov. 13 in Phoenix By AZ Tech Council, the event for tech innovators in Arizona. More info.

chances are you'll be on a flight using alternative fuel — an area of increasing innovation as airlines try to lower their carbon footprint and cost volatility. United Continental (NYSE:UAL) plans to become the first U.S. carrier to use alternative fuels consistently in commercial flights and has a 15 million-gallon agreement with supplier AltAir for fights out of the Los Angeles airport." Long term, we want to manage restrictions around petroleum and don't want to depend solely on petroleum," said Angela Foster-Rice, managing director of environmental affairs and sustainability at United Airlines. "We want to have stable resources." The carrier acknowledges its effort is just a "drop in the bucket" vs. the 18 billion gallons of fuel U.S. airlines burn a year, and not all of its flights out of LAX will have the new fuel. But other airlines are exploring similar moves, and additional fuels derived from trash, tobacco and sugar are under development as regulators look to cut the industry's emissions. The European Economic Area requires all flights in the region to meet emissions caps or pay a fine and eventually will cover all flights into and out of the area. The U.S. Environmental Protection Agency has also signaled it will establish aircraft emissions standards. But carriers are trying to stay ahead of the regulatory game, while they try to grow capacity without expanding their carbon footprints. The International Air Transport Association, a trade group, is seeking to cut net CO2 emissions from the industry in half by 2050 vs. 2005 levels, with 6% of the world's jet fuel being biofuels by 2020.

Alt-Energy Up on Emerging Markets

[Zacks.com, Sept. 23] The demand for alternative energy is growing rapidly for electricity generation in the U.S., accounting for nearly 40% of all new, domestic power capacity installed last year. Driven primarily by the growth in wind and solar photovoltaics (PV.V), alternative energy will likely become the world's second most important source of electricity apart from coal by the next five years. Although some better-established sources of alternative energy, like hydro, wind, biomass and waste, not to mention solar PV, are supported extensively, niche renewable energy sources such as geothermal and concentrated solar power (:CSP) are also on the rise, natural conditions permitting. Other upcoming alternative sources include the prospect of harnessing sea power. Numerous new ocean power technologies are on the verge of commercial development. Although this form of renewable energy is one of the most notable, it involves technologies with high research and development as well as startup costs. This has inhibited its all-out adoption so far.

US Solar Firms Set To Benefit from OPIC Loan Programme

[PV-Tech.org, Sept. 26] The Overseas Private Investment Corporation (OPIC) has issued its first green guaranties to US investors to back climate-friendly projects, with US solar firms expected to benefit. OPIC, the US government's development finance agency, is offering the debt under the terms of the 2014 Green Bond Principles, which were drawn up by the financial sector in collaboration with environmental NGOs. OPIC green guaranties funded US$47 million of the US$230 million the agency is providing to First Solar for the Luz del Norte project in Chile. "The offering of OPIC's first green guaranties is a significant milestone. This underscores commitments made by both OPIC and the US Government towards addressing the global challenge of climate change," said Elizabeth Littlefield, president and CEO, OPIC. "This is the kind of innovative, impactful financing that has helped keep this agency nimble and effective over the past four decades as the world of development finance has been swiftly evolving."

PACE Financing Set To Expand Commercial Solar Market

[RenewableEnergyWorld.com, Sept. 24] In the United States, access to third-party financing has been a main driver in bringing solar projects of all sizes across the finish line. Availability of third-party power purchase agreements (PPAs) and leases has enabled rapid solar adoption within the residential sector and with larger commercial solar projects. However, smaller commercial projects, or those under 1 megawatt (MW), have had relatively limited or no access to capital due to higher transaction costs, lower returns, and unrated or non-investment grade credit of some project owners. Commercial Property Assessed Clean Energy (PACE) financing could fill the gap for smaller commercial customers eager to cut energy costs. How PACE works: a real estate owner, if eligible, can receive financing for 100 percent of his or her energy saving initiatives from a PACE administrator, to be repaid as a property tax assessment since the financing creates a lien on the property. The financing terms, typically a 20 year time frame, is structured like a loan with fixed payments and a competitive interest rate. If the property is ever sold, the upgrades go with it, along with any tax liability. Through PACE programs, property owners can add value to their properties with long-term capital and little to no upfront costs. PACE has been making strong headway in the United States over the past few years with the expectation that not only will more and more municipalities implement programs but that more and more financiers will see the value as well and put money behind these programs. According to PACENow there have been 71 commercial PACE projects ranging from $9,000 to $7 million in value. Office, government, and

retail properties account for the majority of these projects. Municipalities see multiple benefits, beyond just reaching energy efficiency and renewable energy goals, from implementing PACE programs, according to The Solar Foundation.

ENERGY/GENERAL

Mexican Cartels Steal Billions from Oil Industry

[Associated Press, Sept. 25] Ciudad Mier, MEXICO — Mexico overcame 75 years of nationalist pride to reform its flagging, state-owned oil industry. But as it prepares to develop rich shale fields along the Gulf Coast, and attract foreign investors, another challenge awaits: taming the brutal drug cartels that rule the region and are stealing billions of dollars' worth of oil from pipelines. Figures released by Petroleos Mexicanos last week show the gangs are becoming more prolific and sophisticated. So far this year, thieves across Mexico have drilled 2,481 illegal taps into state-owned pipelines, up more than one-third from the same period of 2013. Pemex estimates it's lost some 7.5 million barrels worth $1.15 billion. Pemex director Emilio Lozoya called the trend "worrisome." More than a fifth of the illegal taps occurred in Tamaulipas, the Gulf state neighboring Texas that is a cornerstone for Mexico's future oil plans. It has Mexico's largest fields of recoverable shale gas, the natural gas extracted by fracturing rock layers, or fracking. Mexico, overall, is believed to have the world's sixth-largest reserves of shale gas — equivalent to 60 billion barrels of crude oil. That's more than twice the total amount of oil that Mexico has produced by conventional means over the last century. The energy reform passed in December loosened Mexico's protectionist policies, opening the way for Pemex to seek foreign investors and expertise to help it exploit its shale fields. It hopes to draw $10 billion to $15 billion in private investment each year. The attractiveness of the venture may hinge on bringing Tamaulipas under control.

Natural Gas from Wastewater Injected into NY City Gas Grid

[Energy Manager Today, Sept. 29] National Grid is beginning the design and construction phase of a purification system to convert biogas from the Newtown Creek Wastewater Treatment Plant in New York City into renewable natural gas for residential and commercial use. Ultimately, the project will directly inject renewable gas from an existing waste stream into the local gas distribution system.

INDUSTRIES AND TECHNOLOGIES

Google, IEEE, NREL Want Smaller Solar Inverters

[Energy Manager Today, Sept. 23] The Energy Department's National Renewable Energy Laboratory (NREL) will test power inverters submitted to the Little Box Challenge, which is being presented by Google and the IEEE Power Electronics Society. The challenge is an open competition to build smaller power inverters for use in solar power systems. The winner of the $1 million prize will have designed and built a kilowatt-scale inverter with the highest power density – at least 50 Watts per cubic inch. Each of the 18 finalists will be invited to bring their inverter to the Energy Department's Energy Systems Integration Facility (ESIF) on the NREL campus in Golden, Colo., for testing and evaluation against the contest parameters. NREL researchers will evaluate each inverter's efficiency and performance during the same set of typical operating conditions spanning 100 hours. The test results will help Google decide the winner of the competition. The goal of the Little Box Challenge is to create a smaller, cheaper power inverter – the part of the system that converts the direct current (DC) power produced by solar panels to alternating current (AC) that can be used in homes and businesses. Currently, inverters are about the size of a picnic cooler, and Google would like to see the technology shrink to the size of a small laptop computer, or smaller. Shrinking the current inverter by 10 times or more and making it cheaper to produce and install.

MIT Team Improves Liquid Metal Batteries for Grid-Scale Storage; Lower Operating Temperature, Cost

[Green Car Congress, Sept. 22] Researchers at MIT have improved a proposed liquid battery system that could enable renewable energy sources to compete with conventional power plants. Professor Donald Sadoway and colleagues have already started a company, Ambri (initially Liquid Metal Battery Corporation), to produce electrical-grid-scale liquid batteries, which comprise layers of molten material which automatically separate due to their differing densities. (Earlier post.) In a paper published in the journal Nature, they describe a lithium–antimony–lead liquid metal battery comprising a liquid lithium negative electrode, a molten salt electrolyte, and a liquid antimony–lead alloy positive electrode, which self-segregate by density into three distinct layers owing to the immiscibility of the contiguous salt and metal phases. The new composition substitutes different metals for the molten layers used in a battery previously developed by the team; the new formula

allows the battery to work at a temperature more than 200 degrees Celsius lower than the previous formulation.

Smart Grid Research Center Opens

[Energy Manager Today, Sept. 24] Illinois Sen. Dick Durbin joined representatives from Illinois Institute of Technology (IIT), ComEd, Silver Spring Networks and West Monroe Partners at the dedication of the Center for Smart Grid Application, Research and Technology (CSMART). CSMART is dedicated to researching, testing and analyzing the latest smart grid and smart city technology innovations in a real-world environment. The Center is located at IIT's Robert W. Galvin Center for Electricity Innovation and built with the support of IIT, ComEd, Silver Spring Networks and West Monroe Partners. CSMART will leverage the capabilities of academia, utilities and private enterprise to determine the best ways to deploy and support advanced smart grid technologies. It will support and publish research on the impacts of smart grid technologies on new and existing business models. The open business environment at CSMART will help advance the development in these key areas in Chicago and Illinois and across the United States.

SolarCity Scores Its Own Gigafactory in Upstate New York

New factory could be operational as soon as 2016

[MarketWatch.com, Sept. 24] San Francisco, CA – Elon Musk-backed SolarCity Corp. has moved far from its tried-and-true rooftop solar leasing model, and Wall Street doesn't seem to care. On Tuesday, the No. 1 U.S. solar installer SCTY, +4.37% struck a deal with the state of New York to build a solar-panel factory upstate. The company's shares rallied more than 5% in Wednesday trading. "SolarCity is getting into a business it has never been before," said Angelo Zino, an analyst with Capital IQ. Historically, it had outsourced panels from Chinese makers, and it entering the solar-panel making business brings fresh execution risk and capital needs, Zino said. The $1 billion deal is a sweet one for SolarCity, whose CEO Lyndon Rive is Musk's cousin (Musk also serves as the company's chairman). The Empire State will pony up $750 million, mostly to build the facility near Buffalo and add infrastructure, leaving SolarCity to cover the remaining costs. The so-called Riverbend factory could be online as soon as early 2016. SolarCity will pay $1 plus the cost of utilities to lease the facility for the next decade, with an option to renew the lease.

LEGISLATION AND REGULATION

Common Sense National Water Bill First of Its Kind

[Fierce Energy, Sept. 25] Small communities often have difficulty financing the construction and maintenance of traditional long-pipe drinking water systems as the cost per resident can be prohibitively expensive. New legislation has been introduced in Congress to provide small communities nationwide with critical information on the use of water wells and water well systems for high-quality drinking water has been introduced that is aimed at reducing the costs to federal, state, and local governments in providing quality drinking water to millions living in rural and isolated communities by promoting cost-effective community well water systems. Introduced by Congressman Marlin Stutzman (R-IN), the Water Supply Cost Savings Act (Savings Act), HR 5659, is being widely supported by the water supply industry, including the Water Systems Council, the Water Quality Association and the National Groundwater Association, and being hailed as "the first piece of national legislation to provide local community decision makers with a cost effective option to utilize smaller domestic well water systems to meet community drinking water needs."

IRS Reviews Tax Implications of Value of Solar Tariffs

Austin homeowner investigates VOST tax concerns before going solar

[PR Newswire, Sept. 24] Austin, TX – The Alliance for Solar Choice today announced that the filing of an Information Letter Request with the IRS this week is drawing more attention to the negative tax implications of Value of Solar Tariffs (VOSTs). As a result of the action by an Austin homeowner, the IRS will formally review VOSTs and their impact on taxpayers. Austin implemented a VOST in October of 2012, and that policy is currently the only choice for homeowners to receive compensation for the solar energy they provide to the grid. Austin can reinstate net metering alongside the VOST to address the tax problem. Net metering allows solar customers to get credit on their utility bills at the retail rate for any excess power their rooftop solar installations send back to the grid. Under a VOST, solar customers cannot use the power generated by their solar systems. Instead, they must sell all the power their solar systems produce to the utility at a price set by the utility (and often reevaluated on an annual basis). Meanwhile, they must continue to purchase all the electricity they need from the utility just like a homeowner without solar. Utilities support VOSTs over the widely effective net metering policy. According to a 2013 legal memo from top national law firm Skadden, Arps, Slate, Meagher & Flom, VOSTs both jeopardize a homeowner's ability to claim the 30% federal investment tax credit (ITC), and

increase homeowners' income taxes. "VOST schemes expose unassuming homeowners to thousands of dollars in additional taxes," said Bryan Miller, co-Chairman of The Alliance for Solar Choice. "Austin can resolve this tax burden quickly and easily by making the VOST optional and giving homeowners the choice to utilize net metering alongside it." Through the Information Letter Request, the IRS will make a determination on the impact of VOSTs on income taxes and ITC eligibility. This IRS review will not only impact Austin, but also influence discussions about potential VOSTs in major U.S. solar markets including California and New York. Net metering exists in 43 U.S. states, and polls across the country show overwhelming support for the policy.

Secretary Jewell Announces Competitive Leasing Policy to Encourage Solar and Wind Energy Development on Public Lands, Create Greater Certainty for Developers
Proposed rule to spur renewable energy in the West, ensure fair return to American taxpayers
[U.S. Dept. of Interior – Bureau of Land Management, Sept. 25] Washington, D.C. – As part of President Obama's comprehensive Climate Action Plan to create American jobs, develop domestic clean energy resources and cut carbon pollution, Secretary of the Interior Sally Jewell today announced a new competitive leasing process by the Bureau of Land Management (BLM) to help spur solar and wind energy development on public lands in the West. "This competitive process will encourage access to leasing opportunities for renewable energy projects, create greater certainty for developers and provide a fair market return to American taxpayers for the use of public lands," said Secretary Jewell. "The competitive proposal will help move the United States toward a cleaner environment – cutting carbon pollution and creating American jobs, while supplying communities with reliable and affordable power." The announcement builds upon Tuesday's release of an innovative, landscape-level blueprint for renewable energy and conservation, covering more than 22 million acres in the California desert. The draft Desert Renewable Energy Conservation Plan will protect areas important for wildlife, recreation, cultural heritage and other uses while streamlining permitting in areas appropriate for siting of solar, wind and geothermal energy projects and associated transmission.

WESTERN POWER

Calif. Announces Plans for $200M in Drought-Relief Projects
[Associated Press, Sept. 24] Sacramento, CA – California water officials on Tuesday released plans for spending almost a third of the $687 million emergency drought relief package approved by lawmakers earlier this year. More than $200 million in expedited bond funding would benefit 110 projects throughout the state, ranging from the city of Mt. Shasta to San Diego , under the draft recommendations by the state Department of Water Resources . The agency plans to make final decisions by Oct. 31. Gov. Jerry Brown declared a drought emergency in January, as vanishing snowpack and rainfall has led to farmers fallowing fields and mandatory water restrictions. The next month, the Legislature approved fast-tracked legislation, SB103 and SB104, to address the immediate effects of the three-year drought on communities while accelerating bond funding for public works projects that will better prepare agencies for future droughts. "There's many ways we can better use the water we have," Brown said when announcing the legislation. "You can't manufacture water." One of the projects recommended Tuesday would replace 18 miles of an Amador Water Agency canal, 50 miles southeast of Sacramento, with a pipeline to save water that is now evaporating or seeping into the ground. Another would fund three new wells serving rural communities facing water shortages in Ukiah.

Gigafactory Sequel? California Lobbies Elon Musk for Second Tesla Battery Megaplant
[Phoenix Business Journal, Sept. 24] If at first you don't succeed in luring a highly sought-after tech project, try again with more emphasis on talent. Tesla Motors Inc.'s home state of California already saw the electric car company's initial, hysteria-inducing $5 billion Gigafactory project go to a lower-cost competitor after Nevada's $1.25 billion incentive offer. But Golden State lawmakers aren't giving up on the lure of several thousand high-tech manufacturing jobs that easily. Realizing the political and economic allure of the Gigafactory battery-tech project, California's congressional delegation has sent a new letter to Tesla CEO Elon Musk urging him to bring a rumored second factory to the Palo Alto-based company's home state.\

Massive Project Tests Battery Energy Storage
[Energy Manager Today, Sept. 29] Southern California Edison is opening the largest battery energy storage project in North America – the Tehachapi Energy Storage Project. The demonstration project costs about $50 million with matching funds from SCE and the Department of Energy as part of the American Recovery and Reinvestment Act of 2009. The 32 MWh battery energy storage system features lithium-ion batteries housed inside a 6,300-sq-foot facility at SCE's Monolith substation in Tehachapi, Calif. The project is strategically located in the Tehachapi Wind Resource Area that is projected to generate up to 4,500 MW of wind energy by 2016. The

installation will allow SCE to evaluate the technological capabilities of energy storage on the electric grid.

Massive Wind-CAES Project Proposed To Power Southern California

[Power Magazine, Sept. 24] A coalition of four companies are proposing to build a 2.1-GW, $8 billion project that would comprise the world's largest wind farm in Wyoming, a huge compressed-air energy storage (CAES) system in Utah, and a 525-mile transmission line that would supply up to 9.2 TWh per year of electricity to Southern California. Pathfinder Renewable Wind Energy, Magnum Energy, Dresser-Rand, and Duke-American Transmission announced the proposal at a media conference on Sept. 23. The $4-billion wind farm, to be built, owned, and operated by Pathfinder, would cover 150,000 acres in Chugwater, Wyo., about 40 miles north of Cheyenne, using turbines supplied by General Electric. The area planned for the site has been identified as having some of the highest wind potential in the country.

No Drought Relief in U.S. West without Deep Mountain Snow

[Bloomberg, Sept. 24] The drought in the U.S. West is unlikely to end any time soon, and that makes the coming winter one of the most crucial in recent years. How the West gets its water is a delicate balancing act between what nature provides, mostly in the form of snow, and what humans can capture in reservoirs. "All eyes will be turned to the winter because it is a really critical winter, not just for California but the rest of the West and the lower Great Plains as well," said Mark Svoboda of the National Drought Mitigation Center in Lincoln, Nebraska. Exceptional drought, the worst category on a five-step scale, covered 19.88 percent of 11 Western states, including California, Nevada and Arizona, last week, according to the U.S. Drought Monitor, also based in Lincoln. Across the region, 70.26 percent of the land is at least "abnormally dry." That affects almost 51.2 million people, or 16 percent of the U.S. population, the Drought Monitor said on its website. Parts of the Southwest have a monsoon season in the summer, when rainfall increases. However, for a large part of the region, the equation is simpler: Ending the drought before the start of the next dry period would require more than twice the normal amount of snow.

Renewable Energy Plan Hinges on Huge Utah Caverns

[Associated Press, Sept. 25] Cheyenne, WY – A proposal to export twice as much Wyoming wind power to Los Angeles as the amount of electricity generated by the Hoover Dam includes an engineering feat even more massive than that famous structure: Four chambers, each approaching the size of the Empire State Building, would be carved from an underground salt deposit to hold huge volumes of compressed air. The caverns in central Utah would serve as a kind of massive battery on a scale never before seen, helping to overcome the fact that — even in Wyoming — wind doesn't blow all the time. Air would be pumped into the caverns when power demand is low and wind is high, typically at night. During times of increased demand, the compressed air would be released to drive turbines and feed power to markets in far-away Southern California. It's a relatively simple concept proven decades ago on a much smaller scale by utilities in Alabama and Germany. Yet, experts said Wednesday there's a reason similar projects don't exist elsewhere: The technology known as "compressed air energy storage" is expensive, particularly when stacked against other power sources such as cheap, natural gas. Stored energy technically is wonderful stuff. But it's primarily the capital costs that get you," said Brendan Kirby, a private consultant and former senior researcher at the Oak Ridge National Laboratory. "If it made a lot of economic sense, you'd be seeing these projects duplicated." Still, Kirby and other experts added that the concept holds great promise for broader application as expenses drop, wind power capacity expands and West Coast utilities look to Rocky Mountain states to supply more electricity. It also could help rebut renewable energy skeptics who point to the variability of wind power as reason enough to stick with fossil fuels.

Toshiba Mitsubishi-Electric To Manufacture Solar Photovoltaic Inverters in Houston, Texas

[SolarServer.com, Sept. 26] Toshiba Mitsubishi-Electric Industrial Systems Corporation (TMEIC, Tokyo, Japan) has formed a new manufacturing subsidiary in North America, TMEIC Power Electronics Products Corporation, to manufacture solar photovoltaic (PV) inverters in North America. Fabrication of PV inverters will commence in the fall of 2014 at the Houston, Texas based facility. The factory's production will start with "Solar Ware" UL certified PV Inverters, featuring an advanced multilevel inverter system, world class efficiency at 99%. Products will be included in the portfolio of TMEIC Corporation a systems engineering and solution provider of TMEIC in North America that is headquartered in Roanoke, Virginia.

US, California Release Roadmap for Solar Projects

[Associated Press, Sept. 24] San Francisco, CA – State and federal officials sought Tuesday to bring order to California's boom for renewable-energy plants in the Mojave and other southern California deserts, releasing a roadmap covering 22.5 million acres that designates some areas for

large-scale solar, wind and geothermal plants and others for conservation of desert habitat and animals. "We have amazingly special places here," U.S. Interior Secretary Sally Jewell said in a news conference at a desert wind farm near Palm Springs with U.S. Sen. Barbara Boxer and other officials releasing the multi-agency draft plan. By taking a look at the desert as a whole, Jewell said, the plan's designers are ensuring "the areas that should be protected are set aside. The areas that should be developed are streamlined" for building utility-scale renewable energy plants. The release of the plan follows a renewable-energy building boom in southeastern California's deserts during the first term of the Obama administration, when the federal government gave billions of dollars in loans to developers placing sprawling, utility-scale solar projects in virgin desert. The plan released Tuesday recommends designating a total of 2 million acres as appropriate sites for future solar, wind and geothermal projects. Another 4.9 million acres under the U.S. Bureau of Land Management would be among the areas set aside as conservation areas, if the draft plan is adopted.

ARIZONA STATE INCENTIVES/POLICIES

ARIZONA COMMERCE AUTHORITY (ACA)

INCENTIVES

Arizona has lowered taxes, streamlined regulations, and established a suite of incentives to support corporate growth and expansion. The Arizona Competitiveness Package, groundbreaking legislation adopted in 2011, makes it easier for existing Arizona companies to prosper and establishes Arizona as one of the most desirable places for expanding companies to do business. Give your company a competitive edge by utilizing Arizona's incentives.

- Job Training
- Quality Jobs
- Qualified Facility
- Computer Data Center Program
- Research & Development
- Foreign Trade Zone
- Military Reuse Zone
- Angel Investment
- Renewable Energy Tax Incentive
- Healthy Forest
- Sales Tax Exemption for Machinery and Equipment
- Lease Excise
- Additional Depreciation
- Work Opportunity
- Commercial/Industrial Solar
- SBIR/STTR
- Private Activity Bonds
- QECB's

(ACA) PROGRAMS

DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY (DSIRE)

- Arizona Incentives/Policies
- Federal Incentives/Policies
- Solar Policy News

  DSIRE provides summaries of current solar policy developments and an archive of past solar policy developments. Current solar news appears below the news archive, which is searchable by several criteria.

GRANTS

The following solicitations are now available:
(Click on title to view solicitation)

- Frontier Observatory for Research in Geothermal Energy (FORGE) – Close Date: Oct. 1, 2014
- Vehicle Technologies Alternative Fuel Vehicle Deployment Initiatives – Concept Paper Submission Deadline: Aug. 1, 2014 Submission Deadline: Oct. 1, 2014
- Deployment of Clean Energy & Energy Efficiency on Indian Lands #DE-FOA-0001021 – Full Application Submission Deadline: October 2, 2014.
- Energy for Sustainability – Current Closing Date for Applications: Nov. 5, 2014 Full Proposal Window: Oct. 01, 2014 – Nov. 5, 2014
- Small Business Innovation Research Program - Response due October 2, 2014
- SunShot "Race to the Roof" Initiative - Registration due October 31, 2014
- Energy, Power, and Adaptive Systems - Close Date: Nov. 3, 2014
- National Robotics Initiative - Response due Nov. 14, 2014
- NSF/DOE Partnership on Advanced Frontiers in Renewable Hydrogen Fuel Production Via Solar Water Splitting Technologies 2014-2016 - Close Date: Dec. 11, 2014
- Energy for Sustainability – Current Closing Date for Applications: Nov. 5, 2014
- Nuclear Energy University Programs - Fellowship and Scholarship – Response due November 30, 2015
- Advanced Fossil Energy Projects - Solicitation Number: DE-SOL-0006303 Expiration Date: Nov. 30, 2016
- Repowering Assistance Program - Ongoing
- Rural Business Enterprise Grants - Ongoing
- Rural Business Opportunity Grants - Ongoing
- Sustainable Agriculture Research and Education Grants - Ongoing
- Renewable Energy RFP's - Solicitations for Renewable Energy Generation, Renewable Energy Certificates, and Green Power – Various Deadlines
- U.S. Dept. of Agriculture - Rural Development Grant Assistance
- Green Refinance Plus - Ongoing